

AMENDMENTS TO THE CLAIMS:

Please cancel claims 53–55, 57, 61–67 and 70–72 without prejudice. Please amend the remaining claims as follows, substituting any amended claim(s) for the corresponding pending claim(s):

Claims 1–15 (Canceled).

16. (Previously Presented) A vending method for determining whether a product is delivered, the method comprising:

 sending a delivery signal to a product delivery system based on a customer ordering event;

 monitoring a delivery path that the ordered product travels to reach a product receiving location with a monitoring system located along the delivery path to detect when the product passes through the delivery path, the monitoring system optically scanning the delivery path for product transition past the monitoring system using a plurality of light emitters and a corresponding plurality of light detectors by (a) separately activating at least one but fewer than all of the light emitters and (b) for each of the light emitters when that light emitter is activated, monitoring at least two of the light detectors; and

 determining if the product was delivered to the receiving location.

17. (Previously Presented) The method of claim 16 wherein the monitoring further comprises:
emitting light from at least one of the light emitters when that at least one light emitter is
activated;

for each light emitter when activated, monitoring light received at two or more of the light
detectors; and

determining whether an interruption of light from the at least one activated light emitter to
the two or more light detectors has occurred.

18. (Previously Presented) The method of claim 17 further comprising:

activating each of the light emitters in a sequential series; and

activating two or more of the light detectors concurrently with the activated light emitter.

19. (Previously Presented) The method of claim 16 wherein the light emitters emit an infrared
signal when activated.

20. (Previously Presented) The method of claim 16 further comprising:
upon failure of a first attempt to deliver the product, attempting redelivery of the product for one or more of a predetermined number of attempts; and
providing the customer one or more alternative choices upon failure to deliver the product after the one or more predetermined number of attempts.
21. (Previously Presented) The method of claim 20 wherein the step of providing the customer with an alternative choice further comprises:
providing the customer alternatively with a first choice to request a second product; and
providing the customer alternatively with a second choice to request a refund associated with the customer ordering event.
22. (Previously Presented) The method of claim 16 activating the monitoring system to monitor the delivery path in response to the delivery signal.
23. (Previously Presented) The method of claim 22 further comprising deactivating the monitoring upon delivery of the product.

Claims 24–33 (Canceled).

34. (Previously Presented) The method of claim 18 wherein the plurality of light detectors are each substantially aligned with a corresponding light emitter, the method further comprising:

detecting light emitted by each light emitter when activated using a light detector substantially aligned with the activated light emitter and at least one of two light detectors adjacent to the substantially aligned light detector.

35. (Previously Presented) The method of claim 20, further comprising:

storing data associated with the customer ordering event and redelivery attempts.

Claims 36–39 (Canceled).

40. (Currently Amended) A method of enabling verification of the delivery of a ordered product in a vending machine, the method comprising:

providing a product delivery system for dispensing a product from a product storage position, along a delivery path to a product delivery position in response to a customer order;

providing a monitoring system along the delivery path detecting when the product passes the monitoring system, the monitoring system including a plurality of light emitters and a corresponding plurality of light detectors opposite the light emitters,

each light emitter, when activated, emitting light across the delivery path onto a plurality of the light detectors,

wherein the emitted light from an activated light emitter is detected, unless interrupted, using two or more of the plurality of light detectors.

41. (Previously Presented) The method of claim 40, wherein at least one of the two or more light detectors detects interruption of light emitted by the activated light emitter.

42. (Previously Presented) The method of claim 41, wherein the monitoring system includes a logic circuit electronically coupled to the monitoring system, wherein passage of the product along the delivery path is detected by the logic circuit receiving a first logic result when light from the activated light emitter is detected at all of the two or more light detectors and a second logic result when light from the activated light emitter is not detected at at least one of the two or more light detectors.

43. (Previously Presented) The method of claim 42, wherein the logic circuit further comprises:
an input from the product delivery system;
an input from the monitoring system; and
an output from a comparison circuit based upon the input from the product delivery system and the input from the monitoring system, the output indicating whether a delivery attempt by the product delivery system resulted in actual delivery of the product.

44. (Previously Presented) The method of claim 41, wherein the light emitted by the activated light emitter is infrared light.

45. (Previously Presented) The method of claim 41, wherein each of the plurality of light emitters is aligned approximately across from one of the corresponding light detectors.

46. (Previously Presented) The method of claim 41, wherein the light emitters and the corresponding light detectors are aligned such that spacing between detectible beams within light emitted by the activated light emitter accounts for a smallest product that passes along the delivery path.

47. (Previously Presented) The method of claim 41, wherein power of the light emitted by the activated light emitter is adjusted to compensate for ambient light effects.

48. (Previously Presented) The method of claim 41, wherein power of the light emitted by the activated light emitter is adjusted to compensate for reflected light effects.

49. (Previously Presented) The method of claim 41, further comprising:
providing a data storage device for storing information concerning customer orders.

50. (Previously Presented) The method of claim 41, further comprising:
providing a logic circuit for determining whether to offer another vend attempt based upon a comparison between a result of the customer order and a predetermined rule.

51. (Currently Amended) The method of claim 41, wherein delivery of a set of products is prevented for a predetermined period if a product delivery is not detected in response to the customer order.

52. (Previously Presented) The method of claim 49, further comprising:
providing a display device wherein an operator can retrieve the information.

Claims 53–57 (Canceled).

58. (Previously Presented) A method of monitoring operation of a vending machine comprising:
optically scanning a delivery path which a product ordered by a customer travels using an array of emitters on one side of the delivery path and an array of detectors on an other side of the delivery path, wherein a first emitter with the emitter array is actuated alone, a second emitter within the emitter array is actuated alone, and each remaining emitter within the emitter array, if any, is successively actuated alone until all emitters within the emitter array have been actuated, and
wherein at least first and second detectors within the detector array are employed to detect light from the first emitter when the first emitter is actuated and to detect light from the second emitter when the second emitter is actuated.

59. (Previously Presented) The method of claim 58, wherein, once all emitters within the emitter array have been actuated, actuation of the first, second and any remaining emitters is repeated in cyclic fashion.

60. (Previously Presented) The method of claim 59, wherein a period required for all emitters within the emitter array to be actuated at least once is less than a period required for a product to pass through a portion of the delivery path optically scanned using the emitters and detectors.

Claims 61–67 (Canceled)

68. (Currently Amended) ~~The A method according to claim 67, of enabling control based upon product delivery in a vending machine, the method comprising:~~

providing a row of light emitters;

providing a row of light detectors opposite the light emitters, each light detector substantially aligned with one of the light emitters, wherein light from each light emitter, when activated, impinges upon a plurality of the light detectors;

providing a controller individually and sequentially activating the light emitters in a cyclic manner; and

providing logic generating a first logical signal when portions of light emitted by an activated one of the light emitters are detected at all of two or more of the light detectors and a second logical signal when at least one portion of the light emitted by the activated light emitter is not detected at at least one of the two or more light detectors,

wherein the controller is adapted to operate in a calibration mode and in a monitoring mode,
and

wherein the controller is adapted to operate in the calibration mode prior to receipt of a customer order and switch to the monitoring mode upon receipt of the customer order.

69. (Currently Amended) ~~The A method according to claim 67, of enabling control based upon product delivery in a vending machine, the method comprising:~~

providing a row of light emitters;

providing a row of light detectors opposite the light emitters, each light detector substantially aligned with one of the light emitters, wherein light from each light emitter, when activated, impinges upon a plurality of the light detectors;

providing a controller individually and sequentially activating the light emitters in a cyclic manner; and

providing logic generating a first logical signal when portions of light emitted by an activated one of the light emitters are detected at all of two or more of the light detectors and a second logical signal when at least one portion of the light emitted by the activated light emitter is not detected at at least one of the two or more light detectors,

wherein the controller is adapted to operate in a calibration mode and in a monitoring mode,
and

wherein the controller is adapted to operate in the monitoring mode prior to detection of product delivery and switch to the calibration mode after product delivery is detected.

Claims 70–72 (Canceled)